

CLAIMS

1. A robot wrist for an industrial robot, said robot wrist (8) comprising a wrist housing (9) and a wrist part (5),
5 here designated tilt, journaled at the wrist housing (9), wherein the tilt (5) is rotatable relative to the wrist housing (9) about an axis of rotation (55) and comprises a drive unit (14) comprising a motor (16) with a motor housing (18), **characterized** in that a shell part (20) of the
10 motor housing is designed to connect the tilt (5) to the wrist housing (9).
2. A robot wrist according to claim 1, **characterized** in that the tilt comprises a first part (6a) that is rotatable
15 relative to the wrist housing (9) about a first axis of rotation (55), and a second part (6b) that is connected to the first part (6a) and designed to support a toolholder (7) or the like and that is rotatable relative to the first part (6a) about a second axis of rotation (56).
- 20 3. A robot wrist according to claim 2, **characterized** in that the drive unit (14) is arranged for rotation of the second part (6b) relative to the first part (6a) about the second axis of rotation (56).
- 25 4. A robot wrist according to claim 1 or 2, **characterized** in that the drive unit (14) is arranged for rotation of the tilt (5) relative to the wrist housing (9).
- 30 5. A robot wrist according to any of the preceding claims, **characterized** in that the outside of the shell part is designed to connect the tilt (5) to the wrist housing (9).
- 35 6. A robot wrist robot wrist according to any of the preceding claims, **characterized** in that the motor (16) comprises a stator (22) and a rotor (21) arranged in the motor housing (18), the shell part (20) being adapted to surround the stator (22).

7. A robot wrist according to claim 6, **characterized** in that the stator (22) makes contact with the shell part (20).
- 5 8. A robot wrist according to claim 7, **characterized** in that the stator (22) makes contact with the inside of the shell part.
9. A robot wrist according to claim 8, **characterized** in
10 that the inside of the shell part comprises a shoulder (24), wherein the stator (22) makes contact with the shoulder (24) to prevent displacement of the stator (22) in an axial direction relative to the motor housing (18).
- 15 10. A robot wrist according to any of claims 6-9, **characterized** in that the motor housing (18) comprises an opening (23) adapted to allow insertion of the stator (22) into the motor housing, wherein the motor housing (18) comprises a sealing member (26) adapted to seal the opening
20 (23).
11. A robot wrist according to claim 10, **characterized** in that the sealing member (26) comprises a front portion (28) adapted to be received inside the shell part (20).
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12. A robot wrist according to claims 11 and 9, **characterized** in that the stator (22) is clamped between the front portion (28) of the sealing member and the shoulder (24) of the shell part.
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13. A robot wrist according to any of the preceding claims, **characterized** in that the shell part (20) is provided on its outside with at least one fixing member (30a, 30b), which is rigidly connected to a corresponding fixing member
35 (12a, 12b) in the wrist housing (9).
14. A robot wrist according to claim 13, **characterized** in that the fixing member (30a, 30b) of the shell part com-

prises a recess (33) and that the fixing member (12a, 12b) of the wrist housing comprises a shaft journal (13) received in said recess, or vice versa.

5 15. A robot wrist according to claim 13 or 14,
characterized in that a fixing member (30a, 30b) of the
shell part and a corresponding fixing member (12a, 12b) of
the wrist housing (9) make contact with each other via
mutual contact surfaces (15, 35), whereby these contact
10 surfaces (15, 35) are provided with countersunk and/or
raised portions adapted to engage with each other to trans-
mit a rotary force between the fixing members.

16. A robot wrist according to any of claims 13-15,
15 **characterized** in that the shell part (20) is provided with
two fixing members (30a, 30b) on essentially opposite sides
of the shell part.

17. A robot wrist according to any of the preceding claims,
20 **characterized** in that the robot wrist (8) is designed for a
maximum handling weight of at least 100 kg.

18. An industrial robot, **characterized** in that the indus-
trial robot comprises a robot wrist (8) according to any of
25 claims 1-17.

19. A tilt intended to be journalled in a wrist housing of
a robot wrist for an industrial robot, wherein the tilt (5)
is rotatable relative to the wrist housing about an axis of
30 rotation (55) and comprises a drive unit (14) comprising a
motor (16) with a motor housing (18), **characterized** in that
a shell part (20) of the motor housing (18) is designed to
connect the tilt (5) to the wrist housing.

35 20. A tilt according to claim 19, **characterized** in that the
tilt (5) comprises a first part (6a) that is rotatable re-
lative to the wrist housing about a first axis of rotation,
and a second part (6b) that is connected to the first part

(6a) and is designed to support a toolholder (7) or the like and that is rotatable relative to the first part (6a) about a second axis of rotation (56).

- 5 21. A tilt according to claim 20, **characterized** in that the drive unit (14) is adapted for rotation of the second part (6b) relative to the first part (6a) about the second axis of rotation (56).
- 10 22. A tilt according to claim 19 or 20, **characterized** in that the drive unit (14) is adapted for rotation of the tilt (5) relative to the wrist housing.